

Focusing Sustainment Logistics Toward Capabilities Development: Part I

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This is part I of a two-part article suggesting that life cycle logisticians press to establish more persistent and thorough analysis of fielded defense system sustainment performance and associated operations and support costs. With growing emphasis on mitigating such costs, analyses could be used to greater effect by logistics advocates during the earliest capabilities-determination phases of acquisition. But timely analysis is not routinely cycling back (a necessity to an iterative acquisition process) to serve logistics advocacy in driving early-phase systems acquisition.

For life cycle logisticians, the extended development of new defense systems means extending service life sustainment for one or more legacy systems. Logisticians' assurance of supportability-related performance analyses associated with all such sustainment-phase work is invaluable. They should lead efforts to more uniformly compile, assess, digest, and report such analyses, and their efforts should be timed to serve a range of acquisition-phase life cycle sustainment-related considerations—specifically to:

- Specify supportability-related performance capability design and development parameters for new or upgraded defense systems
- Set life cycle ownership cost targets for those performance parameters that reflect incremental improvements in affordability or reflect enterprise-wide affordability constraints
- Provide greater and broader substance to the analysis of alternatives (AoA) process in terms of system and infrastructure total ownership cost impact
- Give veracity to the growing intent that costs for life-cycle supportability be more a decision factor during program decision forums.

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Supportability performance, in this context, refers to system reliability, operational availability, and maintainability (RAM), plus the operations and support (O&S) cost to sustain that performance.

Supportability and Related O&S Cost Analyses

Analyses of fielded system RAM performance and related O&S costs are the best feedback that sustainment-phase logisticians can make to logisticians engaged in the front-end acquisition, starting with the generating of defense system performance capability parameters. Sustainment analysis rarely serves the early Joint Capabilities Integration and Development System (JCIDS) process of specifying system formal performance capability development parameters. But whenever available, it becomes the basis for logistician business case rationale for those shaping performance capability parameters that relate to effective and affordable supportability.

The dearth of individual and systems analyses from the operational phase back to requirements-generating phases should become a logistics community focus and add quantified fidelity to a chronically underperforming JCIDS in this area of systems specification. While JCIDS is now diligent in having RAM category performance parameters under specification, little has been done to provide a more quantitative base of sustainment performance and analyses that might narrow the threshold/objective range of such RAM performance development targets. The intent, beyond just pushing the envelope in terms of system-inherent reliability and maintainability, is to ensure that program life cycle management success is strongly defined by how well its logistics structure persistently sustains system operational availability at optimally affordable ownership cost. Sustainment logisticians can help with the first step of better attuning JCIDS RAM performance capability to a more narrow, challenging, and defensible range of design and development engineering threshold and objective values. Future analyses-driven reduction to the imprecision of JCIDS supportability key performance parameter (KPP) and key systems attributes (KSA) specification, resulting in improved programmatic focus and resources towards systems development of RAM performance, can help end an old paradigm: that deployed supportability performance and, especially, its cost effectiveness "is what it is" once all else of a system's configuration and development is settled upon.

What are the impediments to driving better sustainment performance analyses into early-phase acquisition? One

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is the Service's requirements-generation and sponsorship offices, which set defense system performance capability development parameters. They employ a system-by-system approach and have no role in the compilation of

systems-wide supportability and ownership cost analyses across systems for JCIDS purposes. Uniformly, they employ no staff expertise in logistics operational performance that might enlighten their responsibilities for diligent initial systems RAM specification and an associated mitigation of system and enterprise ownership cost. In terms of opportunity lost to leverage JCIDS to ensure maximum supportability performance at optimal ownership cost, this narrow scope will expand as systems acquisition decisions are made more with a view to enterprise opportunities and cost. First must come sufficient supportability analysis and data, fed back into those earlier phase process, to substantiate logistician business-case recommendations. It is evident that it has not evolved naturally—from a growing understanding of the need to mitigate future systems affordability—given the fact that all requirements-generation JCIDS prioritization of RAM performance specification has had to be mandated by the Department of Defense (and the Department of the Navy) policy.

Life Cycle Management

Program management should not need a specific policy to steer a more comprehensive total systems life cycle management perspective, such as is now warranted by DoD's

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